



Cottontail Rabbit

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The cottontail rabbit is probably our most popular small game animal, and it's also the wild animal most often seen in towns and suburban areas. Because of its popularity and conspicuousness, the rabbit arouses interest both in those who hunt and those who simply enjoy nature observation.

Biology

The cottontail rabbit is a long-eared, small- to medium-sized mammal of the family *Leporidae*. It hops when running, because its hind legs are longer than its front legs. A rabbit's soft fur is brownish above and white below, it has a conspicuous two-inch-diameter white tail, and some individuals have a small white blaze on the forehead. Cottontails are 15-18 inches long and weigh two to three pounds, with females slightly heavier than males.

Preferred habitat includes swamps, thickets, briar patches, down-timber, weedy fields, brushpiles, overgrown fencerows and brushy gullies. Feeding areas are rarely very far from good cover. Rabbits seldom dig dens, preferring to occupy abandoned woodchuck burrows. Home range may be ¼-20 acres, depending on the availability of food and cover. An individual rarely leaves its home territory, where it knows food sources, cover and escape routes thoroughly.

Summer foods include leaves, herbs, legumes, fallen fruit, garden vegetables, low broadleafed weeds, clover and grass; captive wild rabbits have eaten grass equivalent to 42% of their weight daily during the summer. In winter, cottontails eat blackberry and raspberry canes, bark, buds, tender twigs of bushy plants and poison ivy vines.

A rabbit possesses sharp hearing and a keen sense of smell. Its eyes are set well back on the sides of its head, providing a wide field of vision. Rabbits are basically nocturnal, feeding in the evening, at night, and in the early morning. Individuals shelter in thick brush or abandoned woodchuck burrows during the day, and they lead solitary lives on their home ranges. Rabbits rely on a burst of speed

and a zigzagging running pattern to evade predators, but they cannot run steadily for long distances. They can swim if they have to.

Cottontail litters are usually born from March through September, with about half the total litters being born in May and June. Litter size ranges from two to nine young, with five the average; the gestation period is approximately 28 days. Each mature female bears an average of four litters per year. Juvenile females born in early spring are sexually mature--and often breed--by late summer of the same year.

A cup-shaped hole about five inches across and four to six inches deep serves as a nest. This depression is lined with dried grasses and fur, which the female plucks from her chest and belly. Young are born blind, naked and helpless, but they develop rapidly and are weaned, fully furred and on their own at the age of 16 days. The male takes no part in raising the young. Predators, spring floods, heavy rains and farming operations are major causes of nest mortality.

Few cottontails live to be more than a year old in the wild, although their potential lifespan is three to four years. Rabbits are a major food source for many other types of wildlife. Like other heavily-preyed-upon species, rabbits have an extremely high reproductive rate which maintains adequate populations.

Population

The rabbit population today is not as large as it was in the past. The main reason for this decline is loss of good habitat. Today's modern equipment lets farmers clean up and cultivate fence rows, swamps and brushy slopes that once held many rabbits. Expanding cities and towns, new roads and dams continually reduce habitat.

Around the turn of the century, many forest areas were logged off. As these areas grew up in brush, new rabbit habitat was formed, accounting for the tremendous cottontail

populations earlier in this century. Later, low vegetation--which supported the large rabbit populations--began to die as it was shaded out by growing trees. This natural mortality of low vegetation is a result of normal forest succession. Another reason one sees fewer rabbits today than in, say, 1935, is that today's rabbits seem to be more nocturnal than their forbearers.

From year to year, rabbit populations fluctuate in a given area. Changes seem to follow a smooth curve, indicating a gradual building up and dropping down of the population. Hunters usually harvest less than 30% of the available rabbits. Studies show that even if hunters take as many as 40% of the rabbits available in autumn, the next year's rabbit population will not be adversely affected because the species' tremendous reproductive potential builds the population back up again. Young rabbits usually comprise about 80% of the population, but few live to see their second winter.

In summer, when litters are being born and food is plentiful, four rabbits may inhabit a single acre. Then an apparent change in behavior takes place in early fall, with rabbits becoming more nocturnal; also, the summer's surplus of young rabbits is continually being thinned by disease, predation, accidents and parasites. During the fall, one rabbit per acre is considered a good density. The population is at its ebb in late winter after hunters, predators and winter weather have taken many rabbits.

Habitat

Habitat--also called environment, living conditions or food and cover--has more impact on the rabbit population than any other factor. Good rabbit habitat provides abundant food and protective cover. Heavily cultivated land produces ample food, but often not enough protective cover; on abandoned

farming land, the reverse of this often holds true.

Rocky field corners, gullies, poorly drained woodland, outcrops and other areas not being farmed can be managed to produce rabbits. These areas may be planted with pines or shrubs. Cutting along woodland edges stimulates the growth of low vegetation; brushy plants which grow in these cut-over areas provide food and cover for several years.

Individuals interested in creating more summer food for rabbits can plant areas of clover and grasses. These food plots may require four or more mowings each summer to keep them in a "lawn" condition, and they should also be located near good cover.

Rabbits like to take shelter in brushpiles. Brushpiles are best made by placing smaller brush over several firm, large logs, which provide support. The larger logs also keep the brush off the ground, preventing its rapid deterioration.

These herbaceous perennials produce good cover: sericea lespedeza, switch grass, and reed canary grass. Rabbits also use lespedeza as a winter food. Shrubs that provide good cover are multiflora rose, autumn olive and tartarian honeysuckle. (The spread of these shrubs can be controlled through the careful use of herbicides.)

Many conifers also produce fine cover, including white, red, Scotch, Virginia, Australian and mugho pines, and Norway spruce. Coniferous plantings require maintenance to remain good cover areas. Information on the best methods of planting, spacing and maintaining plants for food and cover is available from the Game Commission.

Ninety percent of Pennsylvania's small game is produced on private land, and the key to a larger rabbit population lies in more habitat improvement on the part of the private landowner.

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